

10/575,924

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	93	Ni adj Pt adj alloy	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2008/01/23 17:27
L2	1109	alloy adj catalyst	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2008/01/23 17:32
L3	582	I2 and supported	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2008/01/23 17:33
L4	3763	I3 and (Pt adj Ni) or (Ni adj Pt)	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2008/01/23 17:33

10/575,924

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	969	(502/185).CCLS.	US-PGPUB; USPAT; EPO; JPO	OR	OFF	2008/01/23 18:08

10/575,924

(FILE 'HOME' ENTERED AT 13:19:00 ON 23 JAN 2008)

FILE 'CAPLUS' ENTERED AT 13:19:36 ON 23 JAN 2008

=> s nickel and platinum

661263 NICKEL

229335 PLATINUM

L1 34953 NICKEL AND PLATINUM

=> s l1 and support

511843 SUPPORT

L2 2677 L1 AND SUPPORT

=> s l2 and catalyst

788445 CATALYST

L3 2044 L2 AND CATALYST

=> s l3 and alloy

710745 ALLOY

L4 144 L3 AND ALLOY

=> s l4 and hydrogenation

179354 HYDROGENATION

L5 14 L4 AND HYDROGENATION

=> d 1-14 bib abs

L5 ANSWER 1 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2007:282118 CAPLUS

DN 146:338315

TI The production and use of supported activated base metal catalysts for organic transformation

IN Berweiler, Monika; Ostgard, Daniel; Quandt, Thomas; Roeder, Stefan

PA Degussa A.-G., Germany

SO PCT Int. Appl., 70pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	-----
PI	WO 2007028411	A1	20070315	WO 2005-EP9656	20050908
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW			
	RW:	AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM			

PRAI WO 2005-EP9656 20050908

AB Method for the production of supported activated metal catalysts, whereby an metal alloy and, optionally, a metal powder and a pore builder are dispersed in a water, the dispersion is sprayed on a support or the support is rolled in the dispersion, and the coated support is the dried, calcined and activated. The catalysts can be used for organic transformations, i.e. for hydrogenation reactions in the manufacture of hexamethylenediamine from adiponitrile.

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 2 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2005:371208 CAPLUS
DN 142:431969
TI Method for the production of aromatic amines from aromatic nitro compounds
in the presence of supported nickel-platinum
alloy hydrogenation catalysts
IN Van Laar, Frederik; Schwab, Ekkehard; Oehlenschlaeger, Steffen; Voss,
Hartwig; Mackenroth, Wolfgang; Morgenschweis, Konrad; Penzel, Ulrich;
Weidner, Bernd
PA BASF Aktiengesellschaft, Germany
SO PCT Int. Appl., 18 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2005037768	A1	20050428	WO 2004-EP11642	20041015
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, BG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
	DE 10349095	A1	20050519	DE 2003-10349095	20031017
	EP 1678118	A1	20060712	EP 2004-790484	20041015
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK				
	CN 1867538	A	20061122	CN 2004-80030516	20041015
	JP 2007508348	T	20070405	JP 2006-534705	20041015
	US 2007149814	A1	20070628	US 2006-575924	20060414
	KR 2007007762	A	20070116	KR 2006-708988	20060509
PRAI	DE 2003-10349095	A	20031017		
	WO 2004-EP11642	W	20041015		

OS CASREACT 142:431969

AB A method is described for the production of aromatic amines (e.g.,
diaminotoluenes) from aromatic nitro compds. (e.g., dinitrotoluenes) in the
presence of supported (e.g., activated carbon) nickel-
platinum alloy hydrogenation catalysts with
the atomic ratio between nickel and platinum in the
alloy ranging between 30:70 and 70:30, resp.

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 3 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
AN 2004:758808 CAPLUS
DN 141:260289
TI Preparation of trans-1-substituted-4-trifluoromethoxycyclohexanes
IN Negishi, Makoto; Nagashima, Yutaka; Kusumoto, Akio
PA Dainippon Ink and Chemicals, Inc., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 2004256442 A 20040916 JP 2003-49059 20030226
 PRAI JP 2003-49059 20030226
 OS CASREACT 141:260289; MARPAT 141:260289
 AB The cyclohexanes 1,4-R2(A4L4)n3(A5L5)n4A6L6C6H10OCF3 [I; R2 = C1-20 (cyclo)alkyl, C1-20 (cyclo)alkoxy; R2 may be substituted with C1-10 alkoxy or 1-30 halogens; A4-A6 = trans-1,4-cyclohexylene, 1,4-phenylene, trans-2,6-decahydronaphthyl, 2,6-naphthyl; L4-L6 = (CH2)2, (CH2)4, CHMeCH2, etc.; n3, n4 = 0, 1], useful as liquid crystals or their intermediates (no data), are prepared by hydrogenation of benzenes 1,4-R1(A1L1)n1(A2L2)n2A3L3C6H4OCF3 [II; R1 = C1-20 (cyclo)alkyl, C1-20 (cyclo)alkoxy(alkyl), C2-20 (cyclo)alkenyl(oxy); R1 may be substituted with C1-10 alkoxy or 1-30 halogens; A1-A3 = same as A4-A6; L1-L3 = (CH2)2, (CH2)4, CH:CH, etc.; n1, n2 = 0, 1] over ≥ 1 catalysts chosen from Rh, Ru, Pt, Pd, Ir, Os, raney Ni, their alloys, their compds., and/or their mixts. Thus, trans-II (R1 = C5H11, A3 trans-1,4-cyclohexylene, L3 = single bond, n1 = n2 = 0) was hydrogenated over Pd/C at 80° to give 55% trans-I (R2 = C5H11, A6 trans-1,4-cyclohexylene, L6 = single bond, n3 = n4 = 0) with purity 99.7%.

L5 ANSWER 4 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2004:18619 CAPLUS
 DN 140:62105
 TI Alumina monolithic catalyst supports for hydrogenation
 -hydrotreating catalysts for pyrolysis gasoline
 IN Boger, Thorsten R.; Roy, Shantanu; Sorensen, Charles M.
 PA Germany
 SO U.S. Pat. Appl. Publ., 11 pp.
 CODEN: USXXCO
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2004004031	A1	20040108	US 2002-184364	20020626
	WO 2004003111	A1	20040108	WO 2003-US20455	20030625
	W:			AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW	
	RW:			AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR	
	AU 2003280430	A1	20040119	AU 2003-280430	20030625
	EP 1516036	A1	20050323	EP 2003-742305	20030625
	R:			AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK	
	CN 1678717	A	20051005	CN 2003-820124	20030625
	JP 2005530911	T	20051013	JP 2004-518055	20030625
	US 2005006281	A1	20050113	US 2004-913676	20040805
	US 7014750	B2	20060321		
PRAI	US 2002-184364	A	20020626		
	WO 2003-US20455	W	20030625		

AB Hydrotreating of pyrolysis gasoline byproduct from steam cracking of petroleum feedstocks is carried out over multiple reactors containing an active hydrotreating-hydrogenation catalyst supported on a monolithic support comprised of one or more Al2O3 phases (e.g., a cordierite monolith washcoated with θ -Al2O3). Suitable hydrotreating-hydrogenation catalysts are selected from Ni, Pt, Pd, Rh, Ru, Ag, Fe, Cu, Co, Cr, Ir, and Sn. The monolith support has a cell d. of 10-2000 cells/sq. in. Hydrotreating results in >10% diene conversion in the pyrolysis gasoline.

L5 ANSWER 5 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2003:879751 CAPLUS
 DN 139:383437
 TI Hydrogen storage/supply system
 IN Ichikawa, Masaru; Goto, Yasushi; Fukada, Kazuhiro; Fukaya, Kazuhiro
 PA Sekisui Chemical Co., Ltd., Japan
 SO Jpn. Kokai Tokkyo Koho, 9 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003321202	A	20031111	JP 2002-126073	20020426
PRAI	JP 2002-126073		20020426		

AB In title system utilizing hydrogenation of H-storage article (i.e., aromatic compound) and/or dehydrogenation of H-supply article (i.e., hydrogenated derivative of aromatic compound) for storage and/or supply of H, the system includes the following means: (a) raw material storage means, (b) reactor with supported metal catalyst, (c) raw material supply means for supplying raw material to the reactor, (d) gas-liquid separation means for separating generated gas, (e) means for recovering separated H-storage article and/or H-supply article, and (f) heating means for heating the supported metal catalyst; in addition, the supported metal catalyst is supported on elec. conductive material supports, and the heating means is constructed to make high-frequency induction heating possible. The metal catalyst is selected from ≥ 1 of Ni, Pd, Pt, Rh, In, Ru, Mo, Re, W, V, Os, Cr, Co and Fe. The above stated supports are metal porous articles having sp. surface area $\geq 1000 \text{ m}^2/\text{m}^3$; or felt-like carbon materials having elec. resistance $\leq 100 \Omega \cdot \text{m}$. The metal porous articles can be Ni or Ni alloy porous articles. The aromatic compound is selected from ≥ 1 of benzene, toluene, xylene, mesitylene, naphthalene, Me naphthalene, anthracene, biphenyl, phenanthrene, and their alkyl derivs. The hydrogenated derivative of aromatic compound is selected from ≥ 1 of cyclohexane, Me cyclohexane, 1,2-di-Me cyclohexane, 1,3-di-Me cyclohexane, decahydronaphthalene (decaline), and their alkyl derivs.

L5 ANSWER 6 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2002:832892 CAPLUS
 DN 137:339791
 TI Manufacture of lubricating base oils from solvent-refined oils by sequential hydroprocessing and aromatics hydrogenation
 IN Collin, Marc; Duprey, Eric
 PA Shell Internationale Research Maatschappij BV, Neth.
 SO PCT Int. Appl., 23 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2002086025	A1	20021031	WO 2002-EP4417	20020419
	W:	AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW			
	RW:	GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG			

CA 2444575	A1	20021031	CA 2002-2444575	20020419
AU 2002257792	A1	20021105	AU 2002-257792	20020419
EP 1379612	A1	20040114	EP 2002-727573	20020419
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR				
BR 2002008932	A	20040420	BR 2002-8932	20020419
CN 1503835	A	20040609	CN 2002-808436	20020419
JP 2004531607	T	20041014	JP 2002-583543	20020419
RU 2278147	C2	20060620	RU 2003-133670	20020419
US 2004065587	A1	20040408	US 2003-474928	20031016
IN 2003CN01640	A	20051125	IN 2003-CN1640	20031016

PRAI EP 2001-400996 A 20010419
WO 2002-EP4417 W 20020419

AB Lubricating oil base oils, with >90 weight% sats., <0.03 weight% S, and 80-120 viscosity index, are manufactured from a solvent-refined base oil by: (1) hydrotreating the feedstock in one or more fixed beds composed of oxide-supported Group VIB metal and Group VIII metal catalysts to remove polar (e.g., S and N compds.), followed by (2) hydrogenation of the product from step (1) in one or more fixed beds of an oxide-supported noble metal catalyst in which the oil feedstock flows counter-current to the upflowing hydrogen-containing gas. The solvent-refined oil is a heavy feedstock (e.g., vacuum distillate) that undergoes solvent dewaxing or catalytic dewaxing prior to the first hydrotreating step. Suitable catalysts for step (1) are Co-Mo/Al₂O₃, Ni-Mo/Al₂O₃, and Ni-W/Al₂O₃; suitable catalysts for step (2) are Pt-Pd (or Pt-Pd alloy) supported on SiO₂-Al₂O₃. Steps (1) and (2) are carried out at 300-370° and 250-320°, resp.

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L5 ANSWER 7 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2002:384304 CAPLUS

DN 136:385939

TI Method for selective hydrogenation of alkene group of benzyloxyalkene to benzyloxyalkane and catalyst and catalyst structure used therefor

IN Koizumi, Megumi; Nishiki, Yoshinori; Furuta, Tsuneto; Maki, Shojiro; Tanba, Haruki

PA Permelec Electrode Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 2002145818	A	20020522	JP 2000-340644	20001108
PRAI	JP 2000-340644		20001108		

OS CASREACT 136:385939

AB Provided are a method for selective hydrogenation of the unsatd. alkene group in hydrogenation of benzyloxyalkene dissolved in selected solvent while keeping the benzyl group protected and a catalyst and a catalyst structure used for the hydrogenation. Without accompanying hydrogenation of the benzyl group of benzyloxyalkene, selective hydrogenation of the unsatd. alkene group is carried out by feeding hydrogen gas or using active hydrogen deabsorbed from hydrogen-preabsorbed metal and using a platinum metal as the catalyst and at least one aprotic solvent selected from C1-3 aliphatic hydrocarbons possessing a C1-3 ketone group, petroleum ether, cyclic saturated hydrocarbon containing at last one oxygen

atom in the chain, C1-3 aliphatic hydrocarbons possessing a C1-3 ester group in the main chain, or a mixed solution thereof, or a mixed solution therewith unsatd. cyclic aromatic hydrocarbons containing ≥1 benzene ring as the

solvent. The catalyst is gold, platinum group metal, or platinum group metal black catalyst, in particular palladium or palladium black precipitated by chemical reduction, electrochem. reduction, or reduction with active hydrogen deabsorbed from hydrogen-absorbed metal. It is precipitated in a three-dimensional structure on a support possessing a hydrogen-absorbing metal layer containing Pd, Pd alloy, Ni, Ti, Zr, Al, carbon, and rare earth metals. Thus, an aqueous solution of PdCl₂ was added to one of the chamber of a H-shape cell divided by a palladium plate and an electrolyte (6 M aqueous KOH) to the other chamber. Water was electrolyzed using the palladium plate as the cathode and a nickel plate as the anode to generate hydrogen and palladium black was precipitated on the palladium plate by reduction of PdCl₂ with hydrogen permeated through to the back of the palladium plate. The palladium black-precipitated palladium plate was formed into a cylinder and placed in a reactor. A 7 mM solution of 3-(2-benzyloxy-4,5-dimethoxyphenyl)-1-butene in benzene was hydrogenated in the reactor by feeding hydrogen for 4 h to give 80% 3-(2-benzyloxy-4,5-dimethoxyphenyl)butane together with unreacted starting material with no debenzylated product detected. Other catalyst used was palladium black supported on foamed nickel or porous carbon.

L5 ANSWER 8 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 2000:854407 CAPLUS
 DN 133:364310
 TI Method for hydrogenation of olefin in reformed oil for saturation in the presence of catalyst
 IN Mu, Xuhong; Zhang, Xiaoxin; Zong, Baoning; Ma, Aizeng; Min, Enze; Shu, Xingtian
 PA Sinopec, Peop. Rep. China; Fushun Research Institute of Petroleum Processing, Sinopec
 SO Faming Zhuangli Shenqing Gongkai Shuomingshu, 38 pp.
 CODEN: CNXXEV
 DT Patent
 LA Chinese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	CN 1250799	A	20000419	CN 1998-120381	19981013
	CN 1068033	B	20010704		
PRAI	CN 1998-120381		19981013		

AB The process comprises allowing reformed oil to contact with H₂ in the presence of catalyst at 50-200°, >0.1 MPa, LHSV 0.1-20 h⁻¹, and ratio of H₂/oil >30. The catalyst is prepared by loading amorphous alloy on porous carrier, composed of carrier, ≥1 of Group VIII metal, B and/or P, and metal additive. The alloy is composed of Group VIII metal, and B and/or P. The atomic ratios of VIII metal element to metal additive and B and/or P are 0.1-1,000 and 0.5-10, resp. The total content of VIII metal, and B and/or P in the catalyst is 0.1-60 weight%. The metal additive is selected from ≥1 of Group VIII elements, and other metals which can be obtained by reducing their salts with solution containing H₂PO₄-. The carrier is selected from ≥1 of inorg. oxide, activated C, zeolite, mol. sieve; the inorg. oxide from ≥1 of SiO₂, Al₂O₃, MgO, and CaO; and the zeolite ≥1 of from A, X, Y, ZSM, mordenite, beta, faujasite, aluminophosphate, TS zeolites.

L5 ANSWER 9 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1995:958513 CAPLUS
 DN 124:38747
 TI Thin film hydrous metal oxide catalysts
 IN Dosch, Robert G.; Stephens, Howard P.

PA Sandia Corp., USA
SO U.S., 8 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 4

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	US 5461022	A	19951024	US 1992-998997	19921231
	US 6479427	B1	20021112	US 2000-503230	20000211
PRAI	US 1991-751003	A	19910828		
	US 1992-998997	A	19921231		
	US 1993-23606	A	19930225		
	WO 1994-US1718	W	19940224		
	US 1995-507419	A3	19951006		

AB Thin film (<100 nm) hydrous metal oxide catalysts are prepared by (1) synthesis of a hydrous metal oxide, (2) deposition of the hydrous metal oxide upon an inert support surface, (3) ion exchange with catalytically active metals, and (4) activating the hydrous metal oxide catalysts.

L5 ANSWER 10 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1994:61641 CAPLUS
DN 120:61641

TI Catalyst for hydrogenation of halogenated hydrocarbons for disposal

IN Koppe, Juergen; Kraenke, Klaus; Schoenfeld, Dieter; Haugk, Helmut
PA Technische Hochschule "Carl Schorlemmer" Leuna-Merseburg, Germany
SO Ger. Offen., 3 pp.
CODEN: GWXXBX

DT Patent
LA German

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	---	-----	-----	-----
PI	DE 4200790	A1	19930729	DE 1992-4200790	19920115
PRAI	DE 1992-4200790		19920115		

AB The catalyst comprises a hydrogen halide-resistant support from an iron and/or nickel-based alloy containing $\geq 15\%$ Cr (Nicrofer 7261) coated with TiO₂ and impregnated with ≥ 1 of Pt, Pd, Rh, Ru, and Os, Re, or Ir. The hydrogenation is conducted with excess H at 150-300° and 1-100 atmospheric

L5 ANSWER 11 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1990:63744 CAPLUS
DN 112:63744

TI Radiolytic synthesis of pure and alloyed nickel microaggregates. Application to catalysis

AU Georgopoulos, Mikhael; Delcourt, Marie Odile
CS Lab. Phys.-Chim. Rayonnem., Univ. Paris-Sud, Orsay, 91405, Fr.
SO New Journal of Chemistry (1989), 13(7), 519-24
CODEN: NJCHE5; ISSN: 1144-0546

DT Journal
LA English

AB Optimizing the exptl. factors of the radiolytic synthesis leads to highly reduced colloid solns., as well as supported aggregates, for pure Ni and for Ni-Pd and Ni-Pt particles. The radiolytic yields are relatively low for sols, while they are very high during the 1st stages of reduction in the presence of SiO₂ support, then decrease with further irradiation. Catalytic properties of these particles were tested. The electron transfer reaction from the methylviologen radical ion to H₂O was studied on sols. Pulse radiolysis expts. show that the relatively low activity of pure Ni is largely improved by small quantities of Pd (10%), being

comparable to that of pure Pt at pH 3. A significant pH effect is analyzed in terms of microelectrode overpotential. With SiO₂-supported bimetallic particles, catalytic activity and selectivity were measured for 1,3-butadiene hydrogenation reaction. Pos. results were obtained with Ni-Pt aggregates. For sols. and supported particles as well, these results are a confirmation of the alloying effect.

L5 ANSWER 12 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1989:122286 CAPLUS
 DN 110:122286
 TI Formation of a nickel-copper-aluminum-calcium catalyst for hydrogenation of oxygen
 AU Efremov, V. N.; Tesakova, G. M.; Mamaeva, I. A.; Golosman, E. Z.; Yakerson, V. I.
 CS USSR
 SO Zhurnal Prikladnoi Khimii (Sankt-Peterburg, Russian Federation) (1988), 61(11), 2404-9
 CODEN: ZPKHAB; ISSN: 0044-4618
 DT Journal
 LA Russian
 AB A study was made to establish the optimum composition of Ni-Cu-Al-Ca catalysts for the H₂ + O₂ reaction. The evaluation of phase compns. was followed during the course of catalyst preparation by thermal and x-ray phase anal. Mixts. of Cu and Ni hydroxycarbonates were reacted with Ca aluminates in the presence of 25% NH₃ solution Catalysts reduced at 600° contain Ni-Cu alloys, Y-Al₂O₃, CaO, and CaO.2Al₂O₃. The dispersion of the Ni-Cu alloy phase is 35-65 Å.

L5 ANSWER 13 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1988:444026 CAPLUS
 DN 109:44026
 TI Catalyst composition for hydrogenation and decarbonylation
 IN Schroeder, Hobe; Wittman, Ricky L.
 PA Amoco Corp., USA
 SO U.S., 6 pp.
 CODEN: USXXAM

DT Patent
 LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 4743577	A	19880510	US 1986-918390	19861014
PRAI	US 1986-918390		19861014		

OS CASREACT 109:44026

AB A catalyst composition, useful in decarbonylation and hydrogenation, particularly purification of terephthalic acid by hydrogenation of 4-carboxybenzaldehyde, consists essentially of a 1st catalytic metal selected from Pd and Rh and extended as a thin surface layer upon a 2nd support metal selected from Ti, Ni, and alloys comprising ≥1 support metal, and afforded as a porous, sintered substrate; the 1st metal is present at 0.1-10 weight percent, calculated as the elemental 1st metal and based on the weight of the catalyst composition Addnl., the catalyst has an intermediate metal layer selected from Cu, Pt, and their mixts. extended upon the surface of the 2nd support metal; the intermediate metal is present at 0.1-10 weight%, calculated as the elemental intermediate metal and based on the weight of the catalyst composition

L5 ANSWER 14 OF 14 CAPLUS COPYRIGHT 2008 ACS on STN
 AN 1956:67953 CAPLUS
 DN 50:67953

OREF 50:12619c-f

TI Causes for activity of nickel catalysts in hydrogenation reactions

AU Sultanov, A. S.

SO Kataliticheskoe Gidrirovanie i Okislenie, Akad. Nauk Kazakh. S.S.R., Trudy Konf. (1955) 79-88

DT Journal

LA Unavailable

AB The modes of formation of Ni surface structures and their combination with H atoms are discussed at length. Generally the greater the H content of the Ni catalyst the more effective is its hydrogenation activity. The greatest number of active Ni centers arises with catalysts having 10-15% Ni on a carrier support; the most effective catalysts are those approaching a composition of NiH₄. Although this takes place best at 500° the most active catalysts cannot be prepared at this temperature which is unfavorable to the existence of simple metal-H complexes; this factor can be regulated by the use of high pressures of H₂ during catalyst formation. The Ni catalysts prepared by leaching of alloys can form the hydride-metal structure even at low temperature The loss

of activity of pure Ni-H catalysts is ascribed to poor stability of pure metal hydride structures and this transition to pure Ni lattice can be retarded by various addends before the activation of the catalyst. Ni-Al alloy catalysts are not promoted by Mo, Mn, Cr, W, As, or Sb, whereas Fe, Pt, Pd, and Rh are effective. The alloys NiAl₃ and NiAl₂ are readily activated, whereas the alloy NiAl is almost unaffected by alkalis. To preserve the Ni-H complex structure the use of temps. above 100° is undesirable.

=> s "Ni-Pt alloy"

633810 "NI"

254854 "PT"

710745 "ALLOY"

L6 48 "NI-PT ALLOY"

("NI" (W) "PT" (W) "ALLOY")

=> s l6 and supported

230379 SUPPORTED

L7 1 L6 AND SUPPORTED

=> d bib abs

L7 ANSWER 1 OF 1 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2006:951798 CAPLUS

DN 147:12692

TI Preparation and characteristics of carbon nanotubes supported La-Ni-Pt catalysts

AU Yang, Shu-ting; Yang, Wei-guang; Yin, Yan-hong; Yang, Jin-xin; Yue, Hong-yun

CS Coll. Chem. Environ. Sci., Henan Normal Univ., Xinxiang, Henan, 453007, Peop. Rep. China

SO Dianchi (2006), 36(3), 202-204

CODEN: DNCHEP; ISSN: 1001-1579

PB Dianchi Zazhishe

DT Journal

LA Chinese

AB Carbon nanotubes (CNTs) supported La-Ni-Pt alloy catalysts were prepared using modified polyol process with ethylene glycol, polyvinylpyrrolidone (PVP) and hydrazine hydrate as reaction medium, protective agent and reducing agent, resp. CNTs was pretreated. The crystalline structure, morphol. and surface elements of La-Ni-Pt/CNTs and La-Ni-Pt alloys were investigated by XRD, TEM and EDS methods. The electrocatalytic performance and acid corrosion resistance

were investigated by electrochem. workstation. The results showed that, using CNTs as support, the electrocatalytic performance and acid corrosion resistance of the catalyst were improved.

```
=> s "Pt-Ni alloy"
      254854 "PT"
      633810 "NI"
      710745 "ALLOY"
L8      69 "PT-NI ALLOY"
        ("PT" (W) "NI" (W) "ALLOY")
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=> s l8 and supported
      230379 SUPPORTED
L9      6 L8 AND SUPPORTED
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=> d 1-6 bib abs
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L9  ANSWER 1 OF 6  CAPLUS  COPYRIGHT 2008 ACS on STN
AN  2007:155955  CAPLUS
DN  147:525217
TI  Various types of Pt-Ni binary catalysts supported on carbon
    nanotubes as cathode catalysts for DMFC
AU  Seo, Yong-ki; Kim, Yong-hwan; Chung, Uoo-chang; Chung, Won-sub
CS  Department of Material Science and Engineering, Pusan National University,
    Pusan, 609-735, S. Korea
SO  Diffusion and Defect Data--Solid State Data, Pt. B: Solid State Phenomena
    (2007), 119(Nanocomposites and Nanoporous Materials), 247-250
    CODEN: DDBPE8; ISSN: 1012-0394
PB  Trans Tech Publications Ltd.
DT  Journal
LA  English
AB  Several methods for loading Pt-Ni binary catalysts on the CNTs were
    tested. Using CNTs treated with HNO3, the catalysts Pt, Ni sep. (Pt and
    Ni/CNT) and Pt-Ni alloy (Pt-Ni/CNTs) were
    made. The results of supporting were confirmed by TEM and XRD. TEM
    images show that metal catalysts were loaded uniformly and finely on the
    CNTs. XRD showed that Pt and Ni/CNTs displayed Pt and Ni peaks. Also the
    peaks of Pt were shifted to the higher 2 $\theta$  angle in XRD which indicated
    that a Pt-Ni alloy was formed for
    Pt-Ni/CNTs. Electrochem. tests of cathode catalysts for DMFCs were
    performed. Pt-Ni/CNTs was the most suitable cathode catalysts for DMFCs.
RE.CNT 8  THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
        ALL CITATIONS AVAILABLE IN THE RE FORMAT
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L9  ANSWER 2 OF 6  CAPLUS  COPYRIGHT 2008 ACS on STN
AN  2006:988165  CAPLUS
DN  145:512729
TI  Oxygen reduction reaction in acid medium on Pt-Ni/C prepared by a
    microemulsion method
AU  Santos, L. G. R. A.; Oliveira, C. H. F.; Moraes, I. R.; Ticianelli, E. A.
CS  Instituto de Quimica de Sao Carlos, USP, Sao Carlos, SP, 13560-970, Brazil
SO  Journal of Electroanalytical Chemistry (2006), 596(2), 141-148
    CODEN: JECHES
PB  Elsevier B.V.
DT  Journal
LA  English
AB  This work discusses the electrocatalysis of the oxygen reduction reaction
    (ORR) in acid medium on ultra-thin coating electrodes formed by Pt-Ni
    nanoparticles dispersed on a C powder (Pt-Ni/C, 90:10, 75:25 and 60:40,
    Pt:Ni atomic proportion). The catalysts were synthesized by a microemulsion
    method, using Brij 30 as surfactant. X-ray diffraction and TEM were
    employed to estimate the catalyst particle size and to characterize the
    crystalline
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structure. This technique indicated that the synthesized catalyst particles present a nano-crystalline structure. The electrochem. techniques considered were cyclic voltammetry and steady-state polarization curves, obtained using the rotating ring-disk electrode (RRDE) technique. The ORR takes place by a multi-electronic charge transfer process following a 4-electron mechanism. The kinetics of the ORR was evaluated using Tafel diagrams. The Pt activity for ORR is enhanced with the increase of the Ni amount on the Pt alloys.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 3 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2005:125487 CAPLUS

DN 142:381088

TI Methanol tolerant oxygen reduction on carbon-supported
Pt-Ni alloy nanoparticles

AU Yang, Hui; Coutanceau, Christophe; Leger, Jean-Michel; Alonso-Vante,
Nicolas; Lamy, Claude

CS College of Chemistry and Environmental Science, Nanjing Normal University,
Nanjing, 210097, Peop. Rep. China

SO Journal of Electroanalytical Chemistry (2005), 576(2), 305-313
CODEN: JECHE5

PB Elsevier B.V.

DT Journal

LA English

AB The preparation of C-supported Pt-Ni alloy catalysts at a 40% total metal loading and with high Ni content within the alloys and their electrocatalysis for the oxygen reduction reaction was studied. Emphasis is placed on the MeOH-tolerant oxygen reduction on as-prepared alloy catalysts and their application in direct MeOH fuel cells. As-prepared alloy catalysts have single-phase disordered structures and small particle sizes with a relatively narrow size distribution even at 40% loading. As compared to pure Pt/C catalyst for oxygen reduction, such alloy catalysts exhibited enhanced electrocatalytic activities in pure acidic electrolyte and significantly enhanced electrocatalytic activities in MeOH-containing electrolyte. The high MeOH tolerance of Pt-Ni alloy catalysts during oxygen reduction could be ascribed to a lowered activity of MeOH oxidation,

which

may originate from the composition effect and the disordered structure of the alloy catalysts. Fuel cell tests confirmed that as-prepared Pt-Ni alloy catalysts for oxygen reduction are more active than a com. Pt/C catalyst with the same metal loading and that the maximum activity was found with a Pt/Ni atomic ratio of 2:1, which is similar to results in half-cell tests.

RE.CNT 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 4 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN

AN 2004:511317 CAPLUS

DN 141:196531

TI Structure and Electrocatalytic Activity of Carbon-Supported
Pt-Ni Alloy Nanoparticles Toward the Oxygen
Reduction Reaction

AU Yang, Hui; Vogel, Walter; Lamy, Claude; Alonso-Vante, Nicolas

CS Laboratory of Electrocatalysis, UMR CNRS 6503, University of Poitiers,
Poitiers, F-86022, Fr.

SO Journal of Physical Chemistry B (2004), 108(30), 11024-11034
CODEN: JPCBFK; ISSN: 1520-6106

PB American Chemical Society

DT Journal

LA English

AB Vulcan XC-72 C-supported Pt-Ni alloy nanoparticle catalysts with different Pt/Ni atomic composition were prepared via the

carbonyl complex route and their structure was studied by x-ray diffraction spectroscopy at wide angles (WAXS) and Debye function anal. (DFA). The very good agreement between the WAXS pattern and DFA simulation revealed that all the as-prepared Pt-Ni alloy catalysts have a unique and highly disordered face centered cubic structure (solid solution) and that the lattice parameter decreases with the increase of the Ni content in the alloys. TEM images indicated that the as-prepared Pt-Ni alloy nanoparticles were well dispersed on the surface of the C support with a narrow particle size distribution and that their mean particle size slightly decreased with the increase in Ni content. Energy-dispersive x-ray anal. (EDX) confirmed that the catalyst composition was nearly the same as that of the nominal value. Thus, a comparative study was made for the oxygen reduction reaction (ORR) using the thin-film rotating ring-disk electrode method to the behavior of Pt based catalysts on the same C support, having the same metal loading, the same disordered structure, and a similar particle size. As compared to the Pt/C catalyst, the bimetallic catalysts with different Pt/Ni atomic ratios exhibited an enhancement factor of .apprx.1.5 to 3 in the mass activity and of .apprx.1.5 to 4 in the specific activity for the ORR and a lower production of H₂O₂ in pure HClO₄ solution. The maximum activity of the Pt-based catalysts was found with ca. 30-40 atomic% Ni content in the alloys, which could originate from the favorable Pt-Pt interat. distance. The ring-current measurements on all the catalysts showed similar behavior for H₂O₂ production. The enhanced electrocatalytic activity of as-prepared Pt-Ni alloy catalysts for the ORR is attributed to the high dispersion of the alloy catalysts, to their disordered structure, and to the favorable Pt-Pt mean interat. distance caused by alloying.

RE.CNT 53 THERE ARE 53 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L9 ANSWER 5 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1986:231281 CAPLUS
DN 104:231281
OREF 104:36587a,36590a
TI The surface composition of silica-supported platinum-nickel alloys
AU Wielers, A. F. H.; Van der Grift, C. J. G.; Geus, J. W.
CS Dep. Inorg. Chem., Univ. Utrecht, Utrecht, 3522 AD, Neth.
SO Applied Surface Science (1986), 25(3), 249-64
CODEN: ASUSEE; ISSN: 0169-4332
DT Journal
LA English
AB The surface composition of small supported Pt-Ni alloy particles (diameter 2-5 nm) was determined by means of IR spectra of adsorbed CO and NO. By dosing CO and NO in the appropriate sequence to the alloys, CO is adsorbed selectively on the Pt atoms and NO on the Ni atoms. On the alloy surfaces no reaction occurs between these adsorbed species as the bands observed do not change upon standing in vacuo. With increasing bulk Ni concentration the intensity of the CO/Pt band drops, whereas the intensity of the NO/Ni band increases. The band maximum of the CO/Pt band shifts continuously to lower wavenumbers and the shape of the NO/Ni band changes. The composition of the surface is almost equal to that of the bulk.

L9 ANSWER 6 OF 6 CAPLUS COPYRIGHT 2008 ACS on STN
AN 1981:619507 CAPLUS
DN 95:219507
OREF 95:36617a,36620a
TI Catalytic activity of alumina supported platinum-nickel alloys
AU Renouprez, A. J.; Moraweck, B.; Imelik, B.; Perrichon, V.; Domingez-Esquivel, J. M.; Jablonski, J.
CS Inst. Rech. Catal., Villeurbanne, 69626, Fr.

SO Studies in Surface Science and Catalysis (1981), 7(Pt. A, New Horiz.
Catal.), 173-85
CODEN: SSCTDM; ISSN: 0167-2991
DT Journal
LA English
AB X-ray diffraction and XPS were used to characterize alumina-
supported Pt-Ni alloy catalysts. A
synergetic effect was detected for the isomerization and hydrogenolysis of
neopentane on these catalysts. Adsorption occurs mainly on Ni;
isomerization occurs mainly on the surrounding Pt atoms.